

U.S. PATENT APPLICATION

for

LIGHT STRING ASSEMBLY

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LIGHT STRING ASSEMBLY

FIELD OF THE INVENTION

[0001] The present invention relates generally to decorative lights, and more particularly to strings of decorative lights having candle shaped bulbs. The invention further relates to strings of decorative lights that are readily adapted for display at different holidays, occasions and seasons.

BACKGROUND OF THE INVENTION

[0002] It is common for people to decorate their homes, offices and other locations for festive occasions such as holidays or even 10 entire seasons. Such displays increase the festive atmosphere of the occasion and allow people to express their creativity and artistry.

[0003] Many holiday or seasonal displays include decorative lights which may be arranged individually or in strings. For example, decorative lights shaped as individual candles may be used to provide a room 15 with the aesthetics and ambience of an actual candle flame, but without the associated risks or bother. According to one known construction of such candle lights, a 6 or 7 watt glass bulb may be coated with silicon gel, which may contain colored pigment or scent to further enhance the ambience.

[0004] Although individual decorative candle lights such as the 20 above-described silicon construction are known in the art, such decorative lights have not heretofore been provided in strings. Moreover, due to the relatively high power consumption ratings of the bulbs typically used for such decorative candle lights, strings of such lights could not be provided without creating a potential fire hazard.

[0005] In view of the forgoing, it would be advantageous to 25 provide candle shaped lights in strings. Moreover, it would further be desirable to provide strings of candle shaped lights that are readily adaptable to different occasions, holidays or seasons.

SUMMARY OF THE INVENTION

[0006] The present invention relates to strings of decorative lights having candle shaped bulbs and methods for making such light strings.

[0007] According to a first aspect of an embodiment of the 5 present invention, a decorative light string assembly comprises a string of light bulb sockets electrically interconnected by an electrical cord and a plurality of decorative light bulbs mated with the sockets. The electrical cord has at least one end terminated by an electrical connector. Each decorative light bulb comprises a plain light bulb covered by a flexible outer coating in 10 the shape of a candle flame.

[0008] According to another aspect of an embodiment of the present invention, a decorative light string assembly kit comprises a string of light bulb sockets electrically interconnected by an electrical cord and at least 15 two sets of decorative light bulbs. The electrical cord has at least one end terminated by an electrical connector. Each decorative light bulb comprises a decorative portion and a base portion configured for mating with one of the sockets. Each decorative portion comprises a plain light bulb covered by a flexible outer coating in the shape of a candle flame. Each set of light bulbs includes a color or scent associated with a different holiday or season.

[0009] According to a further aspect of an embodiment of the 20 present invention, a method for making a decorative light string assembly includes coating a plurality of plain light bulbs with a polymeric gel to form a like plurality of decorative light bulbs having flexible outer coverings in the shape of candle flames. Each plain light bulb draws between about 1 watts and 4 watts when energized. The method further includes mating each of the 25 decorative light bulbs in a light bulb socket of an extension cord to electrically interconnect the decorative light bulbs. The electrical cord has at least one end terminated by an electrical connector.

[0010] These and other benefits and features of embodiments 30 of the invention will be apparent upon consideration of the following detailed

description of preferred embodiments thereof, presented in connection with the following drawings in which like reference numerals are used to identify like elements throughout.

BRIEF DESCRIPTION OF THE DRAWINGS

5 [0011] FIG. 1 is front elevation view of a string of candle lights in accordance with an embodiment of the present invention.

[0012] FIG. 2 is an enlarged front elevation view of an individual candle light.

10 [0013] FIG. 3 is an enlarged, cross-sectional view through the candle light of FIG. 2 taken along the line 3-3 in FIG. 2.

[0014] FIG. 4 is a first embodiment of a package of candle lights adapted for mounting in a light string.

[0015] FIG. 5 is a second embodiment of a package of candle lights adapted for mounting in a light string.

15 [0016] FIG. 6 is a third embodiment of a package of candle lights adapted for mounting in a light string.

20 [0017] Before explaining several preferred embodiments of the present invention in detail it is noted that the invention is not limited to the details of construction or the arrangement of components set forth below or illustrated in the drawings. The invention is capable of other embodiments and being practiced or carried out in various ways. It is also noted that the phraseology and terminology employed herein is for purposes of description only and should not be regarded as limiting.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

25 [0018] The particulars shown herein are by way of example and for purposes of illustrative discussion of the embodiments of the present invention only and are presented in a manner that is believed to provide the most useful and readily understood description of the principles and concepts

of the present invention. In this regard, no attempt is made to show structural details of the present invention in more detail than is necessary to provide a fundamental understanding of the present invention. The description of the invention taken with the drawings is believed sufficient to 5 make it apparent to those skilled in the art how several forms of the present invention may be embodied in practice.

[0019] Turning now to the drawings and referring initially to FIG. 1, a decorative light string assembly 10 is shown in accordance with a preferred embodiment of the present invention. Light string assembly 10 includes a plurality of decorative lights 12A, 12B and 12C, which are 10 electrically and physically interconnected by an electrical cord 14. Electrical cord 14 includes a plurality of light bulb sockets 16A, 16B and 16C, which are spaced at various locations along the length of electrical cord 14 between an electrical plug 18 at one end and an electrical receptacle 20 at an opposite 15 end. Light bulb sockets 16A, 16B and 16C may have decorative exterior appearances (e.g., they may be shaped as candles), or somewhat more plain appearances (as illustrated).

[0020] Referring now to FIG. 2, each decorative light 12 comprises a visible decorative portion 22 and a base portion 24 configured for 20 mating with one of the light bulb sockets 16A, 16B, 16C. In the illustrated embodiment, base portion 24 is shown as a standard screw type light bulb base. However, base portion 24 could be a press-in type base or any other type of light bulb base that is well known to persons skilled in the art.

[0021] As best illustrated by FIG. 3, decorative portion 22 preferably comprises a flexible outer coating 26 that is applied over an inner 25 bulb 28. Preferably, inner bulb 28 is made from glass. However, inner bulb 28 could be made from plastic or any other relatively rigid and sufficiently transparent material that is well known to persons skilled in the art. Moreover, inner bulb 28 should have a sufficiently low power consumption 30 rating that the specified electrical capacity of electrical cord 14 is not

exceeded when the desired number of decorative lights 12 are mated in sockets 16 and connected to a power source. By way of example and not limitation, each inner bulb 28 may have power consumption rating of between about 1 and 4 watts, and more preferably between about 2 and 3
5 watts.

[0022] Still referring to FIG. 3, flexible outer coating 26 preferably comprises an flexible elastomeric substance or polymer 30. One example of a material that is particularly well suited for making candle bulbs is silicon gel. However, numerous other polymers could be used so long as
10 they are capable of assuming and resiliently retaining the desired shape (i.e., that of a candle flame) while also allowing the desired amount of light transmission. According to a preferred embodiment, substance 30 may be applied to each inner bulb 28 by a dipping technique. Of course, persons skilled in the art will appreciate that numerous other coating methods and
15 techniques could be used and will depend in large part upon the specific coating material that is used.

[0023] In the illustrated embodiment, particles of colored pigments 32 and/or scents 34 are interspersed throughout substance 30 to alter or enhance the ambience provided by light string assembly 10. As
20 persons skilled in the art will appreciate, particles 32 and/or 34 may be in either liquid or solid form. Moreover, particles 32 and/or 34 could be applied to the exterior surface of substance 30 rather than interspersed therein.

[0024] Turning now to FIGS. 4-6, three different sets 36, 38, and 40 of candle bulbs are shown for use during particularly holidays. By
25 way of example and not limitation, light set 36 includes red, white and blue candle bulbs 42, 44 and 46, which colors are typically associated with the July Fourth holiday. As another example, light set 38 includes orange bulbs 48, 50 and 52, which color is most closely associated with Halloween but also with the fall season in general. As a further example, light set 40
30 includes red and green bulbs 54 and 56, respectively, which colors are

typically associated with the Christmas holiday. Persons skilled in the art will recognize that other colors or combinations of colors could be used for other holidays, seasons or occasions, such as the colors red and white for Valentine's Day.

5 [0025] In addition to color, each of the forgoing light bulb sets 36, 38, and 40 or other sets could be provided with scents representative of particular holidays, seasons or occasions. As one example, the light bulbs in set 40 could be scented with evergreen or peppermint to enhance the association with Christmas. As another example, the light bulbs in set 38
10 could be scented with pumpkin pie to enhance the association with Halloween in particular or the fall harvest season in general.

15 [0026] It is important to note that the above described and preferred embodiments of the present invention are illustrative only. Although the invention has been described in conjunction with specific embodiments thereof, those skilled in the art will appreciate that numerous modifications are possible without materially departing from the novel teachings and advantages of the subject matter described herein. Accordingly, various substitutions, modifications, changes and omissions may be made in the design, operating conditions and arrangement of the preferred and other
20 exemplary embodiments without departing from the spirit of the present invention which is defined by the following claims.